CTTA Control Equipment Emissions - RTO Burners

Regenerative Thermal Oxidizers for Mixer #20, #21 and #5 and Associated Roller Dies

Annual Hours of Operation:	8,760	hr/yr
Burner Capacity (Fuel Input):[1]	14.95	MMBtu/hr
	0.01	MMscf/hr
	128.43	MMscf/yr
	10.70	MMscf/mo
Fuel:	Natural Gas	
Natural Gas Heating Value:	1,020	MMBtu/MMscf
Mass Conversion:	2.20	Lbs/kg
GWP of CO_2:	1	lbs CO_2e/lb CO_2
GWP of N_2O:	310	lbs CO_2e/lb N_2O
GWP of CH_4:	21	lbs CO_2e/lb CH_4

RTO	Burner Capacity (MMBtu/hr)	Flow Rate (dscf)	Potential Flow Rate (dscf)	Potential Burner Capacity (MMBtu/hr)
19,20&21	4.8	22000	58000	12.655
5&6	2.3	24000	24000	2.300
		Total Burner Capacity		14.95

RTO Emissions

Pollutant	Natural Gas Emission Factor (lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (lb/yr)	Potential Emissions (tpy)	Emission Factor Source
NO_X	100.0	1.47	12,843	6.42	AP-42, Table 1.4-1 (7/98)
CO	84	1.23	10,788	5.39	AP-42, Table 1.4-1 (7/98)
PM_{10}	7.6	0.11	976	0.49	AP-42, Table 1.4-2 (7/98)
$PM_{2.5}$	7.6	0.11	976	0.49	AP-42, Table 1.4-2 (7/98)
SO_2	0.60	0.01	77	0.04	AP-42, Table 1.4-2 (7/98)
VOM[2]	5.5	0.08	706	0.35	AP-42, Table 1.4-2 (7/98)
Total HAPs	1.89	0.03	242	0.12	AP-42, Tables 1.4-3 and 1.4-4 (7/98)
CO_2	119,227	1,748	15,312,683	7,656	40 CFR Part 98 Subpart C, Table C-1[3]
N_2O	0.22	0.00	29	0.01	40 CFR Part 98 Subpart C, Table C-2[4]
CH_4	2.25	0.03	289	0.14	40 CFR Part 98 Subpart C, Table C-2[5]
GHG (CO_2e)	-	1,749.74	15,327,702	7,664	40 CFR Part 98 Subpart A, Table A-1[6]

Notes:

[1] The RTO for Mixers #19, #20 and #21 currently uses one burner at 4.8 MMBtu/hr but will be increased by 12.66 MMBtu/hr. The RTO for Mixers #5 and #6 uses one burner at 2.3 MMBtu/hr (unchanged).

[2] VOM emissions from natural gas burning are included in the emissions guarantee and as such are included in the ppm limit on the RTO-Controlled VOM spreadsheet

[3] Table C-1 provides emission factor as 53.02 kg/MMBtu, the factor was modified to lb/MMscf

[4] Table C-2 provides emission factor as 1.00E-04 kg/MMBtu, the factor was modified to lb/MMscf

[5] Table C-2 provides emission factor as 1.00E-03 kg/MMBtu, the factor was modified to lb/MMscf

[6] Table A-1 Provides global warming potentials for Greenhouse Gas pollutants over a 100-year time horizon